Drafts
- ISNR:
- BRS:
- ISNR:
- Pending
- Active
  - L1: (2,7) (ad or advertising or advertisement or advertise) adj3 (time or timing or time
  - L3: (4) 1 and (subscriber or subscription or subscribe)
  - L4: (4) 3 and 2
  - L5: (4) 4 and (compare or comparing or compared or contrast or contrasting or contraste
  - L2: (10) 1 and server
- Failed
- Saved
- Favorites
- Tagged (0)
- UDC
- Queue
- Trash

Document ID	Issue Date	Pages	Title	Current OR	Current XRef Retrieval	Inventor

(ad or advertising or advertisement or
advertise) adj3 (time or timing or timed)
adj3 (attribute or profile or interest)

UPDATE
[EAST]
WORD/MPL
SEARCH
9-20-2004

	Document ID	Issue Date	Pages	Title	Current or current	Retrieval	Inventor
1	US 20040049779	20040311	13	Interactive television	725/13	725/34; 725/35	Sjoblom, Johan et al.
2	US 20040045028	20040304	13	Video-on-demand and targeted advertising	725/86	709/219	Harris, Frederick B.
3	US 20030065778	20030403	18	Methods and Systems for Providing Marketing	709/225		Malik, Dale W.
4	US 20020161633	20021031	18	Delivery of location significant advertising	705/14		Jacob, Joseph et al.

4 and (compare or comparing or compared or contrast or contrasting or contrasted or match or matching or matches or matched)

EAST
UPDATE
WORD / NPL
SEARCHES
9-20-2007

United States Patent [19]

Alberts

[54] **BANNER ADVERTISING DISPLAY SYSTEM AND METHOD WITH FREQUENCY OF ADVERTISEMENT CONTROL**

[75] Inventor: **Charles D. Alberts**, Bolton, Mass.

[73] Assignee: **Switchboard Incorporated**, Westboro, Mass.

[21] Appl. No.: **08/901,393**

[22] Filed: **Jul. 28, 1997**

[51] Int. Cl.^{6} G06F 17/00; G06F 17/60
[52] U.S. Cl. 705/14; 705/26
[58] Field of Search 705/14, 26

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C/Net, "C/Net: The Computer Network Unveils Revolutionary Internet Advertsiing Tools that Allow Cusom Banner Ad Delivery Based on Demographic Information", PR Newswire, Dec. 6, 1995, 3 pages.

Primary Examiner—Allen R. MacDonald
Assistant Examiner—James W. Myhre
Attorney, Agent, or Firm—Hale and Dorr LLP

[57]   **ABSTRACT**

An Internet advertising system has a database, a controller, and an ad server operating as part of a web server. The database has advertising campaign information, including identification information and frequency information for how often the ad is to be served. The ad server uses the campaign information from the database to control the relative ratios of serving ads, the distribution of ads throughout the day, and any triggering mechanisms for controlling what ads are served.

19 Claims, 5 Drawing Sheets
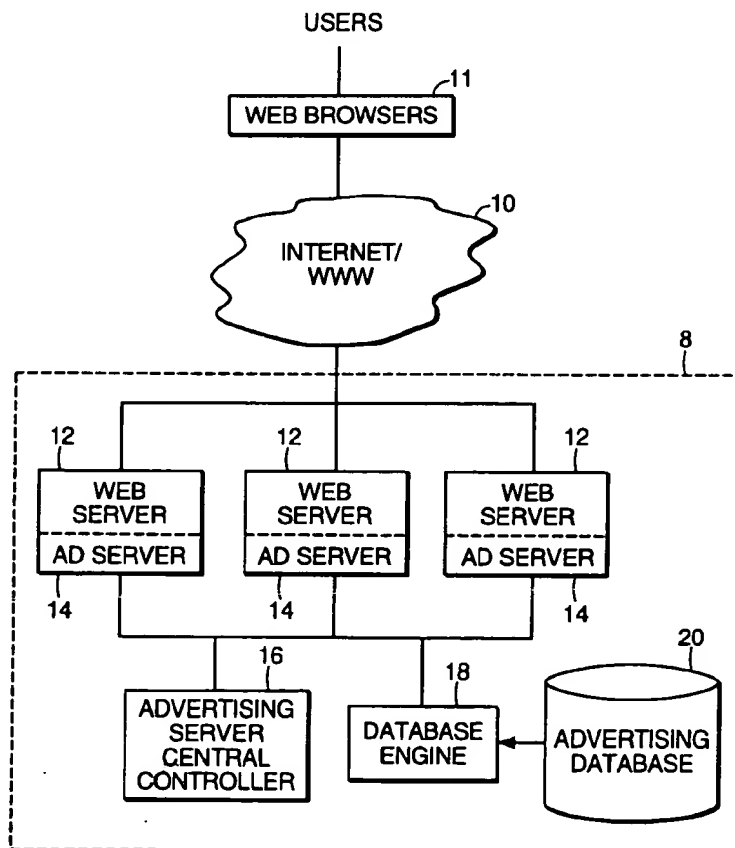
US-PAT-NO: 5937392

DOCUMENT-IDENTIFIER: US 5937392 A

TITLE: Banner advertising display
system and method with
                      frequency of advertisement
control

DATE-ISSUED: August 10, 1999

INVENTOR-INFORMATION:
NAME   CITY
     STATE   ZIP CODE   COUNTRY
Alberts; Charles D.   Bolton
     MA   N/A   N/A

ASSIGNEE INFORMATION:
NAME   CITY
STATE   ZIP CODE   COUNTRY   TYPE CODE
Switchboard   Westboro
MA   N/A   N/A   02
Incorporated

APPL-NO: 08/ 901393

DATE FILED: July 28, 1997

INT-CL: [06] G06F017/00,G06F017/60

US-CL-ISSUED: 705/14, 705/26

US-CL-CURRENT: 705/14, 705/26

FIELD-OF-SEARCH: 705/14; 705/26

REF-CITED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	
PATENTEE-NAME	US-CL	
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	705/1	**N/A**
N/A		
5572643	November 1996	**Judson**
	395/200.48	N/A
N/A		
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	395/200.47	**N/A**
N/A		
5724521	March 1998	**Dedrick**
	705/26	N/A
N/A		

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Communications to Offer Unprecedented Value-Added Online Advertsiing Options",
PR Newswire, Jun. 3, 1996, 3 pages.

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Advertsiing Tools that Allow Cusom Banner Ad Delivery Based on Demographic
Information", PR Newswire, Dec. 6, 1995, 3 pages.

ART-UNIT: 277

PRIMARY-EXAMINER: MacDonald; Allen R.

ASSISTANT-EXAMINER: Myhre; James W.

ATTY-AGENT-FIRM: Hale and Dorr LLP

ABSTRACT:

An Internet advertising system has a database, a controller, and an ad
server operating as part of a web **server**. The database has advertising
campaign information, including identification information and frequency
information for how often the ad is to be served. The ad **server** uses the
campaign information from the database to control the relative ratios of
serving ads, the distribution of ads throughout the day, and any triggering
mechanisms for controlling what ads are served.

19 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

US-PAT-NO: 5937392

DOCUMENT-IDENTIFIER: US 5937392 A

TITLE: Banner advertising display
system and method with
                         frequency of advertisement
control

---------- KWIC ---------

Abstract Text - ABTX (1):
   An Internet advertising system has a database, a
controller, and an ad
server operating as part of a web **server**. The
database has advertising
campaign information, including identification
information and frequency
information for how often the ad is to be served.
The ad **server** uses the
campaign information from the database to control
the relative ratios of
serving ads, the distribution of ads throughout the
day, and any triggering
mechanisms for controlling what ads are served.

Brief Summary Text - BSTX (5):
   Such a system would be difficult to manage and
operate if the numbers of
serves per day for the different ads were
different, and particularly if they
were different significantly and by non-integral
ratios. Different advertisers
may want substantially different numbers of hits;
e.g., one advertiser may want
100,000 hits per day for 10 days, another

advertiser may want 10,000 hits per
day for only one day, and yet another may want
45,000 hits per day for a month.
Another complication that occurs is that the number
of hits can be approximated
for a single day, but the number of hits can vary;
if the number of hits
increases on a particular day, an advertiser may
want the ads distributed
throughout the day so that not all ads are served
early in the day.
Alternatively, an advertiser may want a
concentration or intensification of **ads**
at particular times, perhaps in response to a
profile of users, e.g., different
times for children versus adults, or for people
accessing the site from home
versus work.

Brief Summary Text - BSTX (8):
   The present invention is an advertising system
for use with a large,
publicly accessible network, such as the Internet.
The system has at least one
server for providing information in response to a
request from a user.   The
system includes an advertising **server,** an
advertising database, and an
advertising controller for communicating with the
ad **server** and the ad
database.   The database stores information about
the ads, and the controller
loads advertising campaign data, preferably in the
form of tables, from the
database to the ad **server**.   The ad **server** uses the
information to cause the ads
to be served as desired.

Brief Summary Text - BSTX (9):

To obtain efficient distribution of the ads
relative to each other and
throughout the day (referred to here as "rotation
control"), each ad is
preferably associated with at least two counters
that are operated such that
the system can quickly determine which ad is to be
served, without intensive
computational overhead. Rotation control can be
performed as desired, even
with a large number of ads and with a wide range of
variation and non-integral
ratios between the number of times the ads are to
be served. The ad **server**
effectively makes a single list of ads and has a
pointer that moves through the
list until it reaches an ad to be served. To
reduce steps for each serve, the
system is designed so that the pointer need not
move through more than one
cycle of ads on the list without determining an ad
to be served. Unused hits
can be dedicated to other entities on an unpaid
basis, such as to charities,
but treated like other ads.

Detailed Description Text - DETX (2):
    Internet 10 is a large interconnected network of
computers, a subset of
which is the World Wide Web. Users can access
servers to obtain information
over the web with a conventional web browser 11.
In a system according to the
present invention, an accessible web site 8 has a
number of web **servers** 12 in
communication with the Internet for responding to
users by providing files or
information from databases. Each web **server** 12 has
an advertising (ad) **server**
14 that has known, conventional data insertion

tools for causing one or more
ads, such as banner ads that also serve as HTML
links, to be displayed when a
page of information, such as a file or database
information, is returned to a
user who accesses web site 8.

Detailed Description Text - DETX (4):
    Referring also to FIG. 2, ad **servers** 14 can be
implemented with common
gateway interface (CGI) scripts, or they can be
implemented as software that
runs as part of the web **server** process. When a
user contacts one of web
servers 12 with a query or a request for
information, ad **server** 14 causes one
or more ads to be served along with a response to
that request

Detailed Description Text - DETX (5):
    Each ad **server** 14 communicates with an ad
controller 16 and with a database
engine 18. Database engine 18, in turn,
communicates with an advertising
database 20. Referring also to FIG. 3, advertiser
database 20 (which can be
configured as and considered to be one database or
multiple databases) has
tables 30 that maintain information indicating
parameters for the display of
ads. These tables thus hold what is referred here
to as advertising campaign
data.

Detailed Description Text - DETX (7):
    Referring particularly to FIG. 2, controller 16
is preferably implemented
with programmed processing hardware, and with

software that can be maintained
in any desired medium, such as memory chips or
disks.   Controller 16 accesses
tables 30 in advertiser database 20 and provides
the information from these
tables to ad **servers** 14; the campaign data in
tables 30 is converted into a
portable "meta" format that is used by the ad
server to build internal tables
within storage in the ad **server** (or storage easily
accessible to the ad
server).   The tables built by the ad **server** contain
information derived from
the "meta" information, such as the content of ad
objects, ratios of serves,
counters for rotation (discussed below), and the
numbers of serves per ad for
use in maintaining statistics and logging.   The
campaign data is thus held as a
central store from which it can be distributed to
the individual ad **servers**.

Detailed Description Text - DETX (8):
    Controller 16 receives from ad **server** 14
statistics that indicate what ads
have actually been served and how often these ads
have been served; these
statistics are used by the controller to provide
active feedback to the ad
server to ensure accurate control of the serving of
ads.   Controller 16 formats
the statistics from ad **servers** 14 and provides
these statistics to database
engine 18 for storage in database 20.

Detailed Description Text - DETX (9):
    Ad **servers** 14 also provide a usage log directly
to database engine 18 and
then to database 20 for storage.   The usage log and

the statistics from
controller 16 are used by database engine 18 to
generate external reports for a
system manager. These reports can be generated in
one of many different ways,
including hour-by-hour updates and/or daily reports
on what ads were served so
that the system manager can determine if the ads
are being served at the proper
ratios and with the proper distribution throughout
the day. Corrections can
thus be made if an inconsistency is seen between
the expected and actual
numbers of serves. Moreover, these reports can be
used to provide to
advertisers verification that their ads were
actually displayed in the
frequency and at the times expected, as well as the
number of times the viewer
clicked on the ad and the "click yield," i.e., the
number of clicks per number
of **servers** as a percentage.

Detailed Description Text - DETX (10):
    The controller can also prepare on-line reports
for each individual ad
server, and for the entire web site. The logs are
used to provide reports with
known log analysis tools, while the statistics are
used to provide feedback to
the controller for the whole site. The controller
can then request statistics
from each of the ad **servers** directly and
individually.

Detailed Description Text - DETX (11):
    According to the present invention, ad **servers**
14 provide rotational control
that ensures that ads are served a desired number

of times per day and with a
desired distribution throughout the day, even with
a large number of ads, a
wide variation in ratios of hits, and/or wide
variations of hits per day over
multiple days. Each ad **server** 14 determines which
ads are active based on the
start and run length information from table 30; for
each active ad, ad **server**
14 looks to the frequency to determine a number of
serves per day for each ad.
Server 18 then associates each active ad with at
least counters that are
implemented and configured for rotational control.

Detailed Description Text - DETX (12):
    Referring also to FIG. 4, while the data for
rotational control can be
implemented in different ways, as shown here, ad
server 14 builds a counter
table 50. Associated with each ad, table 50 has a
first column 52 with ads,
and counters 54 with two counters.

Detailed Description Text - DETX (27):
    While the counters are used to provide an
appropriate balance in the numbers
of serves for each ad relative to the others, other
methods can be used to
provide appropriate distribution throughout the
day. FIG. 5 is a graph
representing how usage might vary throughout one
day from midnight to midnight
(the graph here is merely illustrative and is not
meant as a precise measure).
Based on recurring patterns, such as when most
people work, the time zones, and
the day of the week, the number of hits to a
particular service may be

predicted based on prior experience.   The hours of
the day can be broken up
into time regions that may be less frequent during
certain non-peak times and
more frequent during peak times, and the frequency
with which hits are
calculated can be varied from numbers of hits per
day to number of hits per
time periods, with the time periods being reloaded
from the database to the ad
server by the controller on a more frequent basis
throughout the day.   This
approach, in effect, alters the granularity with
which the hits are monitored.
With this approach, the time periods can vary in
duration from short duration
during peak times to longer duration during
non-peak times.

Detailed Description Text - DETX (28):
    Another way to implement such distribution is to
provide control from the
controller based on the statistics that are being
provided from the ad **server**.
If the controller determines that the number of
hits is higher for a given time
period, it can cause the system to delay serving
all paid ads or all ads of a
particular type, and then only serve ads used fill
in gaps between the total
number of hits and the number of paid hits.   This
way, there may be some gaps,
but the distribution is made more regular through
the day.

Detailed Description Text - DETX (29):
    The controller can build a model of traffic
based on past traffic data, and
then this model is used with current statistics

collected from the ad **servers**
to make new "meta" tables on a regular basis, such
as hourly. A simpler
method, however, is to collect statistics from ad
servers and to adjust the
"meta" tables based on recent information. In this
case, a dampening algorithm
could be applied to prevent feedback oscillation.

Claims Text - CLTX (2):
a web **server** for providing information to users
over the Internet in
response to being accessed by the user, the web
server including an advertising
server for providing advertising information along
with other information
provided to users over the Internet;

Claims Text - CLTX (4):
an advertising controller for providing to the
advertising **server**
information from the database;

Claims Text - CLTX (5):
the advertising **server** using the information
from the database to associate
each ad with a number of counters and using the
counters in determining which
of the ads to serve, the counters being used to
ensure that ads are served the
desired number of times over the given time period
relative to other ads.

Claims Text - CLTX (7):
3. The system of claim 1, wherein advertising
server creates a list of ads,
with each ad listed only once in the list, the